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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			GARCIA JR, RENE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/665,392	Applicant(s) TAKAHASHI, TOMOAKI	
	Examiner Rene Garcia, Jr.	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 28-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-19 and 21-26 is/are rejected.
- 7) ☒ Claim(s) 8, 20, 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>22 September 2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The declaration contains data in the Residence and Citizenship fields for a second joint inventor.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Figure 12 Reference 230. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the third liquid mixing portion(s) when comparing to the first liquid mixing portion to select one of the second liquid mixing

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portions must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because of undue length. Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities: Page 6 Line 2: “one tope” spelling error, perhaps meant “on top”.

Appropriate correction is required.

6. Claims 1 and 13 are objected to because of the following informalities: “a” appears to in the phrase “per a unit area”. Appropriate correction is required.

7. Claims 4 and 16 are objected to because of the following informalities: in the phrase “wherein the at least one first liquid”, “at least one” is not needed. Appropriate correction is required.

8. Claims 1 and 13 are objected to because of the following informalities: spelling “generator” should be “generators” (line 4). Appropriate correction is required.

9. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Liquid Ejection Apparatus With Tone Matching During Forward Motion And Backward Motion.

10. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 27 refers to the adjusting method comprising a plurality of third liquid mixing portions and the comparison with a first liquid mixing portion which lacks defining subject matter in the detailed description of the invention.

Election/Restrictions

11. Claims 28-46 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 06 July 2005.

12. Applicant's election without traverse of claims 1-27 in the reply filed on 06 July 2005 is acknowledged.

Claim Objections

13. Claims 1 and 13 are objected to because of the following informalities: recites the limitation "ejection pattern data" in line 13. There is insufficient antecedent basis for this limitation in the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1, 4-7, 9, 10, 13, 16-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka et al. (US 6,899,413) in view of Yanagawa (US 5,984,448).

Otsuka et al. disclose the following claimed limitations:

*regarding claims 1 and 13, liquid ejection apparatus (fig. 1; col. 5, lines 28-29) and an apparatus for controlling/controller, 200/ (fig. 2; col. 6, line 17);

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*head member/**cartridge, 2/** (fig. 1), provided with nozzles including a plurality of nozzle groups each associated with one of a plurality of colors of liquid (col. 6, line 62- col. 7, line 17)

*carriage/2/, operable to carry the head member/cartridge, 1/ so as to reciprocally transverse a first region in which a medium, on which the liquid droplet is landed, is placed (col. 5, line 41)

*head member transverse the first region in a first direction, and the head member transverse the first region in a second direction opposite to the first direction (col. 5 lines 6-7)

*regarding claims 4 and 16, tone confirmation controller/host apparatus, 210/ (col. 6, lines 21-25; computer, operable to control the pattern data adjuster, the controller and the carriage such that: (it is an inherent feature in the art that when half-toning is used in image formation it is being controlled by a controller which is used by the other functions [pattern data adjuster, controller and carriage]to create the final print data)

*at least one first liquid mixing portion, at which liquid droplets of the plural colors are superposed (col. 8 line 1; dot-on-dot/superposed/), is formed on the medium when the head member transverses the first region in the first direction

*plurality of second liquid mixing portions, at which liquid droplets of the plural colors are superposed while varying the ejected number of the liquid droplet per the unit area, are formed on the medium when the head member transverse the first region in the second direction (col. 7 line 67-col. 8 lines 25 – forward path/first direction/, backward path/second direction/;

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col. 3 line 30-49 – applying the color inks at different amounts/varying the ejected number of the liquid droplet per the unit area/)

*wherein the at least one first liquid mixing portion and the second liquid mixing portions are arranged on the medium in a comparative manner/arranged symmetrically/ (col. 4 line 67- col. 5 line 6)

*regarding claims 5 and 17, a plurality of first liquid mixing portions are formed (col. 4 lines 14-20)

*regarding claims 6, 7, 18 and 19, the medium/8/ is placed in the first region/automatic sheet feeder [ASF]/ movably in a third direction perpendicular to the first direction and the second direction (fig. 1; col. 5 lines 51-col. 6 line 4; from the bottom edge of the ASF towards the head cartridge is third direction, first and second direction is the forward and backward path of the carriage)

*the second liquid mixing portions are arranged in the second direction (col. 8, lines 12-25; forward path is first direction and backward path is second direction)

*the first liquid mixing portion and the second liquid mixing portions are adjacent in the third direction (fig. 3; col. 5, lines 55-57 & col. 7, lines 63-65 & col. 3, lines 60-62; raster lines make up the scan direction which represent different positions on the print medium [medium is shifted/adjacent in the third direction/])

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*regarding claims 9 and 21, the first liquid mixing portions are formed by superposing liquid droplets of the plural colors while varying the ejected number of the liquid droplet per the unit area, when the head member transverses the first region in the first direction (col. 3, lines 51-59 & col. 4, lines 21-23; secondary colors are formed by mixing/superposing/ colors on printing material & secondary color pixel area arranged in a predetermined direction/first direction/)

*regarding claim 10, the nozzle groups are at least three groups respectively associated with cyan liquid, magenta liquid and yellow liquid (fig. 3; 100 cyan ink; 101 magenta ink; 102 yellow ink; all are heads containing nozzles [col. 7 lines 8-16])

Otsuka et al. does not disclose the following claimed limitations:

*regarding claims 1 and 13, plurality of pressure fluctuation generator each of which is operable to generate pressure fluctuation in liquid in each of the nozzles to eject a liquid droplet therefrom

*signal generator, operable to generate a first signal and a second signal

*controller, operable to drive the pressure fluctuation generator according to the first signal and ejection pattern data, and to drive the pressure fluctuation generator according to the second signal and the ejection pattern data

*pattern data adjuster, operable to adjust the ejection pattern data so as to vary an ejected number of the liquid droplet per a unit area, for each of the nozzle groups

Yanagawa disclose the following:

*regarding claims 1 and 13, plurality of pressure fluctuation generator/piezoelectric actuators, 31/(fig. 3), each of which is operable to generate pressure fluctuation in liquid in each of the nozzles to eject a liquid droplet therefrom (col. 9, lines 46-47)

*signal generator/waveform generator, 11/(fig. 1), operable to generate a first signal and a second signal (col. 14, lines 1-11; printing cycle is made up of periods T0 to T4 which would constitute one signal and multiple cycles are generated during a printing operation))

*controller/circuit, 10/ (fig. 1), operable to drive the pressure fluctuation generator according to the first signal and ejection pattern data, and to drive the pressure fluctuation generator according to the second signal and the ejection pattern data (fig. 1; col. 12, lines 38-51)

*pattern data adjuster, operable to adjust the ejection pattern data so as to vary an ejected number of the liquid droplet per a unit area, for each of the nozzle groups (col. 4, lines 6-11 & 53-55; driving voltage controls piezoelectric actuators which make up the nozzle groups)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize a plurality of pressure fluctuation generator each of which is operable to generate pressure fluctuation in liquid in each of the nozzles to eject a liquid droplet therefrom; a signal generator, operable to generate a first signal and a second signal; a controller, operable to drive the pressure fluctuation generator according to the first signal and ejection pattern data, and to drive the pressure fluctuation generator according to the second signal and the ejection pattern data; and a pattern data adjuster, operable to adjust the ejection pattern data so as to vary an ejected number of the liquid droplet per a unit area, for each of the nozzle groups as taught by Yanagawa into Otsuka et al. for the purposes of: to achieve high resolution printing; discharging a minimal ink droplet; for driving the piezoelectric actuators; to control area of

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individual dots on recording media to vary the density; printing characters and graphics and the like in which the density of dots on the recording media is maximum and constant to print in a high quality.

16. Claims 2, 3, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka et al. (US 6,899,413) as modified by Yanagawa (US 5,984,448) as applied to claim 1 above, and further in view of Corrigan, III et al. (US 6,386,674).

Otsuka et al. as modified by Yanagawa disclose all of the claimed limitations except for the following:

*regarding claims 2 and 14, first signal and the second signal are different from each other

*regarding claims 3 and 15, first signal and the second signal are identical with each other

Corrigan, III et al. disclose the following:

*regarding claims 2 and 14, first signal and the second signal are different from each other (col. 9, lines 24-50; col. 5, lines 32-44; signal/fire pulse/, voltage levels are set to generate specific ink drop volumes, each specific ink drop volume is a different fire pulse; to create different ink drop volumes different signals/fire pulses/ are needed)

*regarding claims 3 and 15, first signal and the second signal are identical with each other (col. 9, lines 24-50; col. 5, lines 32-44; signal/fire pulse/, voltage levels are set to generate

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specific ink drop volumes, each specific ink drop volume is a different fire pulse; to create identical ink drop volumes identical signals/fire pulses/ are needed)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize a drive signal generator capable of generating a first and second which are different from each and a drive signal generator capable of generating a first and second which are identical with each other as taught by Corrigan, III et al. into Otsuka et al. as modified by Yanagawa for the purpose of emitting a desired ink drop volume from the ink ejection elements/nozzles/ (col. 5, lines 43-44).

17. Claims 7 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka et al. (US 6,899,413) as modified by Yanagawa (US 5,984,448) as applied to claims 1 and 13 respectively above, and further in view of Otsuki et al. (US 6,692,096).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the

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reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C.

103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Otsuka et al. as modified by Yanagawa disclose all of the claimed limitations except for the following:

*further regarding claims 7 and 19, the second liquid mixing portions are arranged in the third direction

*the first liquid mixing portion and the second liquid mixing portions are adjacent in the second direction

Otsuki et al. disclose the following:

*further regarding claims 7 and 19, the second liquid mixing portions are arranged in the third direction (fig. 10; forward(x)/first direction/, y/third direction/, reverse/second direction/; C/second liquid mixing portions/)

*the first liquid mixing portion/K/ and the second liquid mixing portions/C/ are adjacent in the second direction (fig. 10)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the second liquid mixing portions arranged in the third direction and the first liquid mixing portion and the second liquid mixing portions are adjacent in the second direction as taught by Otsuki et al. into Otsuka et al. as modified by Yanagawa for the purpose creating a reference value for determining a reference correction value for adjustment between the forward and reverse main scanning passes.

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18. Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka et al. (US 6,899,413) as modified by Yanagawa (US 5,984,448) as applied to claims 1 and 13 respectively above, and further in view of Usui et al. (USPGPUB 2002/0196471).

Otsuka et al. as modified by Yanagawa disclose all of the claimed limitations except for the following:

*regarding claims 11 and 22, the unit area includes a matrix pattern constituted by a plurality of pixels each of which is associated with one liquid droplet

Usui et al. disclose the following:

*regarding claims 11 and 22, the unit area includes a matrix pattern constituted by a plurality of pixels each of which is associated with one liquid droplet (paragraphs 0160 and 0002; unit area defined by matrix of 12 rows x 8 columns; matrix pattern/dither pattern table/makes up pixels associated with dots; fig. 6 ref 12d)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the unit area including a matrix pattern constituted by a plurality of pixels each of which is associated with one liquid droplet as taught by Usui et al. into Otsuka et al. as modified by Yanagawa for the purpose of minimizing moiré patterns and other artifacts in printouts.

19. Claims 12 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka et al. (US 6,899,413) as modified by Yanagawa (US 5,984,448) as applied to claims 1 and 13 respectively above, and further in view of Suzuki et al. (US 4,342,051).

Otsuka et al. as modified by Yanagawa disclose all of the claimed limitations except for the following:

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* regarding claims 12 and 23, size of the unit area is variable according to the ejection pattern data

Suzuki et al. disclose the following:

* regarding claims 12 and 23, size of the unit area is variable according to the ejection pattern data (col. 1, lines 35-41 & lines 55-60; reproduction/recording/ of half-tone images, differing sizes of matrices corresponding to image densities/size of the unit area/)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to vary the size of the unit area according to the ejection pattern data as taught by Suzuki et al. into Otsuka et al. as modified by Yanagawa for the purpose of maintaining the sharpness of the original image.

20. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka et al. (US 6,899,413) as modified by Yanagawa (US 5,984,448) as applied to claims 1 and 4 above, and further in view of Nakano (US 5,506,696).

Otsuka et al. as modified by Yanagawa disclose all of the claimed limitations except for the following:

*regarding claim 24, comparing the second liquid mixing portions with the first liquid mixing portion to select one of the second liquid mixing portions having a tone closest to a tone of the first liquid mixing portion

*adjusting the ejection pattern data so as to correspond to an ejected number of the liquid droplet per the unit area which is associated with the selected one of the second liquid mixing portions

*regarding claim 25, comparing step is performed with operator's eyes

*regarding claim 26, comparing step is performed with a colorimetry device

Nakano disclose the following:

*regarding claim 24, comparing the second liquid mixing portions with the first liquid mixing portion to select one of the second liquid mixing portions having a tone closest to a tone of the first liquid mixing portion

*adjusting the ejection pattern data so as to correspond to an ejected number of the liquid droplet per the unit area which is associated with the selected one of the second liquid mixing portions (col. 3, line 21-col. 4 line 12; colorimetry means generates colorimetric value signal to measure a color sample/compare second and first liquid mixing portion/; conversion means for generating color separation value signal/selected portion/; processor uses color separation value signal to generate final printed image).

*regarding claim 25, comparing step is performed with operator's eyes (col. 8, lines 29-31 and 45-48 & col. 13, lines 42-45; operator observes [observation in the instance is done with eyes] to confirm output and has the ability edit colorimetry result via interactive input section 11)

*regarding claim 26, comparing step is performed with a colorimetry device/2/ (fig. 1; col. 7, lines 64-65)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize comparing the second liquid mixing portions with the first liquid mixing portion to select one of the second liquid mixing portions having a tone closest to a

tone of the first liquid mixing portion; adjusting the ejection pattern data so as to correspond to an ejected number of the liquid droplet per the unit area which is associated with the selected one of the second liquid mixing portions; a comparative step using a colorimetry device or operator's eyes as taught by Nakano into Otsuka et al. as modified by Yanagawa for the purpose of accurately reproducing the color to be reproduced using the image output device.

Allowable Subject Matter

21. Claims 8, 20 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8, 20 and 27 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

22. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 8 is the inclusion of the limitation of a liquid ejection apparatus wherein the pattern data adjuster adjust the ejection pattern data so as to vary relative percentages among liquid droplets of the respective colors in all liquid droplets ejected in the unit area. It is this limitation found in the claim, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

23. The primary reason for the allowance of claim 20 is the inclusion of the limitation of an apparatus for controlling a liquid ejection apparatus wherein the pattern data adjuster adjust the ejection pattern data so as to vary relative percentages among liquid droplets of the respective

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colors in all liquid droplets ejected in the unit area. It is this limitation found in the claim, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

24. The primary reason for the allowance of claim 27 is the inclusion of the method step for the liquid ejection apparatus that includes forming a plurality of third liquid mixing portions, when the head member transverses the first region in the first direction; comparing the third liquid mixing portions with the first liquid mixing portion to select one of the second liquid mixing portions having a tone closest to a tone of the first liquid mixing portion; and adjusting the ejection pattern data so as to correspond to an ejected number of the liquid droplet per the unit area which is associated with the selected one of the third liquid mixing portions. It is these steps found in the claim, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Conclusion


25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Otsuka et al. (US 6,905,190) discloses a two-way print apparatus and print method for formation of pixels in forward and backward scanning adjusting the dot pattern. Bolash et al. (US 6,45,607) discloses an printing an alignment pattern for multiple color ink jet printheads using a first, second and third mixing portions of liquids. Weijkamp (US 6,616,267) discloses a printing method using forward and return scan pass printing while superposing a plurality of first and second liquid portions.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rene Garcia, Jr. whose telephone number is (571) 272-5980. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Rene Garcia Jr
09 August 2005

 8/05
K. PEGGINS
PRIMARY EXAMINER